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DETERMINANTS OF DEPOSIT MONEY BANKS' LOANS AND ADVANCES IN NIGERIA

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ABSTRACT
The low availability of Loans and Advances from deposit money banks in Nigeria to individuals and firms has been a long standing issue. Consequently, this study investigated the determinants of Loans and Advances in Nigeria focusing attention on liquidity ratio, Interest rate, rate of inflation, loan deposit ratio and cash reserve ratio. Data from deposit money banks in Nigeria showing performance indices was obtained through secondary sources of the Central Bank of Nigeria (CBN) Statistical Bulletin over the period 1994-2013. The data was analysed using Ordinary Least Square Regression Technique and the findings revealed that Liquidity ratio, rate of inflation, Loan deposit ratio and Cash reserve ratio had negative statistical significance with loans and advances while Interest rate had negative statistical insignificance with loans and advances. It was recommended amongst others that government should put in place a policy that will reduce liquidity ratio, Interest rate, rate of inflation, and cash reserve ratio while loan deposit ratio should be increased to boost the economy.

Key words: Loans and Advances, Liquidity ratio, Interest rate, Inflation, Loan deposit ratio and Cash reserve ratio

INTRODUCTION

The banking sector plays a major role in the economic development of any country as a result of their intermediation function because of their ability to mobilize large amounts of capital for individuals and corporate bodies for investment purposes. As a result of this important function of the banks in the economy, various stakeholders such as government, depositors, investors and employees always attach great importance to the quality and quantity of loans and advances of the banking industry in any country. Lending in its most general sense can be described as the temporary giving of money or property to another person with the expectation that it will be repaid (Murray, 2014). In a business and financial context, lending includes many different types of commercial loans and advances.

Shortly before recapitalization, Soludo (2004) declared that the dependency ratio of deposit money banks in Nigeria on government deposits was as high as fifty per cent (50 %), because they could not mobilize good deposits from the private sector. This made the banks to be handicapped due to the volatile nature of these funds, since they could be recalled at short notice. This constrained the banks in terms of effective participation in big ticket transactions particularly in the light of single obligor limit. Consequently, many of them could not meet client's request for funding particularly in sections like telecommunication, maritime and oil and gas. As a result of poor mobilization of large amount of deposits particularly from the informal sector, Nigeria banks were characterized by "boom and burst" cycle which made the banks to fail in their intermediation function (Soludo, 2006)

However, after the recapitalization exercise, the level of confidence in the financial system has remained negatively affected following the bail out of some of the recapitalized banks by the Central Bank of Nigeria (CBN) in 2009 due to poor performance. This has resulted from poor mismanagement involving inadequate policies, lack of standard practices, prevalence of over extension of loans, poor lending, mismatching of assets and liabilities, weak and ineffective internal control systems and poor or lack of strategic planning in the Nigerian banking industry (Alashi, 2002). In Nigeria, banks are regarded as dominant financial institution thus, their health condition is crucial to the general health of the economy (Suffian, 2009). Therefore, having the knowledge of factors influencing commercial banks' loans and dvances is not only important but also essential in stabilizing the economy.

GAP IN LITERATURE

Studies on the determinants deposit money banks' loans and advances have been conducted by many researchers but very limited in the Nigerian context. Although both microeconomic and macroeconomic variables were examined in the few studies conducted in Nigeria, none of them considered the effect of inflation (a macroeconomic factor) consequently, this study shall include the rate of inflation among others such Liquidity ratio, Interest rate, Loan deposit ratio and Cash reserve ratio were selected as determinants of Nigeria deposit money banks' loans and advances.

The main objective of this study was to assess the determinants of deposit money banks' loans and advances in Nigeria using data and other indices covering the period 1994-2013 obtained from 2013 CBN Statistical Bulletin. The domain of this study was centered on the financial sector (specifically listed deposit money banks in Nigeria). The study would be significant to policy makers such as Central Bank of Nigeria and researchers would also find the study beneficial in view of the gap that this study would fill.

2.0 REVIEW OF RELATED LITERATURE AND HYPOTHESES DEVELOPMENT

Several determinants of loans and advances of deposit money banks have been identified in prior empirical studies and results have remained contradictory as a result of differences in data covering different banks and periods in different countries. To investigate the determinants of loans and advances, this study focused on the following factors identified in prior literature and are considered relevant in the Nigerian context- Liquidity ratio (LIR), Interest rate (INT). Inflation rate (INF), Loan deposit ratio (LDR) and Cash reserve ratio (CRR)

LIQUIDITY RATIO

Liquidity can be referred to as a state in which an asset can be readily converted into cash. A bank may be solvent by having enough assets to cover its liabilities but may remain illiquid. This may be due to a mismatch between its assets and liabilities Kasman, (2010). Ajayi (2007) in his study investigated some major determinants of loans and advances in the Nigerian financial system. He used explanatory variables such as liquidity ratio, capital base, bank deposit and lending rates to determine their effect on loans and advances. The study discovered that a relationship exists between dependent variable (loans and advances) and independent variables of total deposit, capital base, liquidity ratio, and lending rate. Similarly, Ituwe (1983) posited that a bank's ability to grant loans and advances was checked by the available cash in its vault. The demands by customers in terms of withdrawals from their deposits have to be met instantaneously. Commercial banks, therefore, have to stock reasonable quantity of cash to meet their customers' demands. Hence, a commercial bank cannot afford to grant loans and advances in excess of its cashing ability. Hence, the issue of liquidity in banking operations also affects the lending behavior of commercial banks. In a similar study, Ojo (1978) also identified that liquidity ratio was seen as an important variable in determining the supply of loans and advances in Nigeria.
H1. Liquidity Ratio has no significant effect on the loans and advances of deposit money banks in Nigeria.

INTEREST RATE

Over the years, interest rates have remained a subject for critical assessment with diverse implications for savings mobilization and investment promotion. Generally, interest rates are the rental payments for the use of credit by borrowers and return for parting with liquidity by lenders (CBN 1997). Melits and Pardine as cited in Ojo (1978) investigated the factors that affect the demand and supply of deposit money banks' loans and advances, using a simple simultaneous equation method, and estimation. The results revealed that the constraints on the capability to grant loans and advances were identified as capacity of deposit money banks' assets, interest on lending, alternative earning assets cost per dollar on bank deposit liabilities. Samy (2003) investigateed the impact of bank's characteristics, financial structure and macroeconomic indicators on bank's net interest margins and profitability in the Tunisian banking industry for the 1980-2000 period. The study specifically mentions that the interest margin and bank loans have a positive and significant impact.

Chizea (1994) in a guide to the lending banker on finance for farming posits that there are certain aspects of fiscal and monetary policies which affect the lending behaviour of commercial banks with emphasis on the interest rate regime. Furthermore, Chizea (1994) observed that the low interest rates being required by commercial banks to be charged on agricultural loans serve as disincentive because of the effect of inflation. Osayameh (1991) noted that since 1980s interest rates for both deposits and loans are being heavily regulated and therefore, the money deposit banks should pay adequate attention to lending and credit administration given the fact that lending constitutes the single most important source of their earnings.
H2.Interest rate has no significant effect on the loans and advances of deposit money banks in Nigeria.

INFLATION RATE

Many empirical studies have focused attention on impact of inflation concerning lending, and found a positive and statistically significant (Molyneux & Thornton 1992). Similarly, Afanasieff, Lhacer and Nakane (2002) conclude that inflation has a negative impact on interest margins. The study of Naceur (2009) offers the following explanation: the main activity of banks (mostly commercial) is lending and the market is therefore based on an offer of credit (provided by banks) and demand (the individuals and companies). Inflation reduces the demand for credit because it increases uncertainty about the future. However, it has been proven that for individuals and businesses, if their level of risk aversion variy widely it increases uncertainty (ambiguity-aversion). This drop in demand would lead to a decline in lending and therefore a decrease in performance (Naceur, 2009).
H3.Yearly inflation rate has no significant effect on the loans and advances of deposit money banks in Nigeria.

LOAN DEPOSIT RATIO

Loan- deposit ratio is a useful instrument to determine bank liquidity, and by extension, it influences the profitability of the banks. The bank profit is based on the interest charged against the deposits; it means the profit is generated through the positive difference between interest on loans and interest on deposits (Joni,Tamkin, Borhan & Towpek,2006). In general banks may not be earning optimal return if the loan deposit ratio is too low. Similarly, Balogun (2011) observed that deposits play a critical role in bank funding, as the main portion of a commercial bank's assets is generally financed through customer deposits. To boost deposit mobilization from the public, banks have used a variety of strategies and most of them increasingly adopted a marketing approach for deposits mobilization, which focuses on the identification of customer needs and offering of products accordingly (Balogun, 2014).

Likewise, Olokoyo (2004) examined the determinants of commercial banks' lending behaviour in Nigeria. Data for the study were obtained from secondary sources. The population comprised of the 89 commercial banks in Nigeria for the period 1980–2005. The scope was limited to 2005 because of the major banks' consolidation that took place from December 2005 which drastically reduced the numbers of banks in Nigeria. The results of the regression analysis conducted revealed that volume of deposits, investment portfolio, interest (lending) rate, stipulated cash reserve requirements ratio and liquidity ratio each showed a significant relationship with loan and advances in the commercial banks.

For a period covering the pre-consolidation and post-consolidation era Obasuyi (2011) carried out an assessment of the determinants of lending behaviour of commercial banks in Nigeria for 1975-2010 periods. Specifically, the study investigated the level of commercial banks loan advances in Nigeria and also examined those various determinants of commercial banks lending behaviour in Nigerian banking sector. The data obtained from secondary sources were subjected to regression analysis. The results of the analysis indicated a direct and positive relationship between commercial bank loan and advances and volume of deposit. The results also revealed a direct and positive relationship between commercial bank loan and advances and annual average exchange rate of Naira to dollars.
H4.Loan Deposit Ratio has no significant effect on the loans and advances of deposit money banks in Nigeria.

CASH RESERVE RATIO

In a recent study on determinants of commercial banks' lending behavior in Nigeria, Olokoyo (2011) utilized explanatory variables such as volume of deposits, investment portfolio, interest rate, cash reserve requirement, liquidity ratio, foreign exchange and gross domestic product to determine their influence on commercial banks' lending. The findings of the study revealed that all these explanatory variables do affect, in varying degree, the lending behaviour of deposit money banks in the country. The study reveals that explanatory variables such as volume of deposit, investment portfolio, foreign exchange and gross domestic product in particular play significant role in influencing the lending behavour of deposit money banks in the country while cash reserve ratio was insignificant. Usman (1999), in a treatise on bank regulation and supervision in Nigeria, posited that the factors that affect commercial banks' lending behaviour depend on the choice of certain policy instruments in their banking operations. Such policy instruments as opined by Usman, (1999) include a rigidly administered interest rate structure, directed credit, cash reserve ratio requirements and stabilizing liquidity control measures like the stabilization securities.
H5.Cash reserve ratio has no significant effect on the loans and advances of deposit money banks in Nigeria.

3.0 RESEARCH METHODOLOGY

3.1 POPULATION, SAMPLE, DATA COLLECTION AND ANALYSIS

The target population was all the deposit money banks in Nigerian. Panel data of all deposit money banks together with other performance indices of banks from 2013 Central Bank of Nigeria statistical Bulletin covering the period 1994-2013 (twenty years) formed the basis of the data set of this study (See Appendix A). The data collected was statistically analysed using ordinary least square regression of Statistical Packages for Social Sciences (SPSS) 16.0 in testing the formulated null hypotheses of the study.

DECISION RULE

When the probability value is greater than 5% level of significance for a null hypothesis it should fail to be rejected and where otherwise to be rejected.

3.2 MODEL DEVELOPMENT AND VARIABLES

Five variables namely: Liquidity ratio, Interest rate. Inflation rate, Loan deposit ratio and Cash Reserve Ratio were selected as determinants of Nigeria deposit money banks' loans and advances. In estimating the relationship between these variables and loans and advances using Ordinary Least Square (OLS), the functional form can be written as follows.

$LOANS = \alpha + \beta_1 LIR + \beta_2 INT + \beta_3 INF + \beta_4 LDR + \beta_5 CRR + \alpha$

Where:
LOANS = Loans and Advances
LIR=Liquidity ratio
INT=Interest rate
INF=Inflation rate
LDR=Loan deposit ratio
CRR=Cash reserve ratio

Table 3.1: Definition of Variables and Measurement

Variables	**Explanation**	**Apriori Sign**
Loans and Advance	Total loans and advances given by all The banks each year, over the period	Dependant Variable
Liquidity Ratio (LIR)	$\frac{\text{Total Cash \& Short Term Fund}}{\text{Total Deposit}} \times \frac{100}{1}$	Independent variable
Interest Rate (INT)	Yearly interest Rate	Independent variable
Inflation Rate (INFL)	Yearly inflation Rate	Independent variable
Loan Deposit Ratio	Loans/deposits*100 for each year	Independent variable
Cash Reserve Ratio	Ratio of Cash reserve requirement to total Deposit liabilities for each year	Independent variable

Source (CBN 2013)

In testing the null hypotheses, OLS regression was run using SPSS 16.0 on the five variables namely: Liquidity ratio, Interest rate, Inflation rate, Loan deposit ratio and Cash Reserve Ratio as determinants of Nigeria deposit money banks' loans and advances and they represented the independent variables while loans and advances was the dependent variable. The results are presented in table 3.2 below.

Table 3.2 Ordinary Least Square Regression results

VARIABLES	T-VALUES	P-VALUES	VIF
LIR	-6.014	0.000	1.51
INT	-487	0.634	1.53
INF	-4.567	0.000	1.16
LDR	5.261	0.000	1.68
CRR	-2.454	0.028	1,85

Source; SPSS 16.0 Output (See Appendix B)

R Squared =0.815
Adjusted R Squared= 0.748
P- VALUE=0.000
F-Change=12.304
Durbin Watson= 1.53

Appendix A

YEARS	**LOANS**	**LIR**	**INT**	**INF**	**LDR**	**CRR**
1994	92	48	21	57	60.9	5.7
1995	142	33	20.79	73	73.3	5.8
1996	172	43	20.86	29	72.9	7.5
1997	238	40	23.32	8.5	76.6	7.8
1998	272	47	21.34	10	74.4	8.3
1999	350	61	27.19	6.6	54.6	11.7
2000	480	64	21.55	6.9	51	9.8
2001	818	52	21.34	18.9	65.6	10.8
2002	931	52	30.19	12.9	62.8	10.6
2003	1183	51	22.88	14	61.9	10
2004	1495	50	20.82	15	68.6	8.6
2005	1937	50	19.49	17.9	70.8	9.7
2006	2529	56	18.7	8.2	63.6	4.2
2007	4732	49	18.36	5.4	70.8	2.8
2008	7650	44	18.7	15.1	80.9	3
2009	9357	31	22.9	13.9	85.7	1.3
2010	8824	30	21.85	11.8	74.2	10
2011	9101	42	22.42	10.3	44.8	8
2012	8982	50	23.79	12	42.3	8
2013	10767	46	24.94	8	36.3	12

Source CBN (2013)

Appendix B

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2.413E8	5	4.827E7	12.304	.000[a]
	Residual	5.492E7	14	3922811.775		
	Total	2.963E8	19			

a. Predictors: (Constant), CRR, INF, LIR, INT, LDR

b. Dependent Variable: LOANS IN BILLIONS OF NAIRA

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.903[a]	.815	.748	1980.6089	.815	12.304	5	14	.000	1.536

a. Predictors: (Constant), CRR, INF, LIR, INT, LDR

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	44676.833	7095.829		6.296	.000		
	LIR	-376.907	62.674	-.849	-6.014	.000	.664	1.507
	INT	-95.385	195.922	-.069	-.487	.634	.652	1.533
	INF	-129.985	28.465	-.567	-4.567	.000	.859	1.165
	LDR	-235.767	44.814	-.785	-5.261	.000	.595	1.680
	CRR	-492.864	200.829	-.384	-2.454	.028	.541	1.848

a. Dependent Variable: LOANS IN BILLIONS OF NAIRA

In terms of overall model fitness and robustness, all the parameters showed that the model fts the data very well. This was because the R squared and the adjusted R squared were 81.5% and 74.8 respectively. This suggested that over 80% of the total variations on the dependent variable (loans and advances) were explained by the explanatory variables. The adjusted R squared showd that even after adjusting for the degree of freedom, the model could still explain about 75% of the total variation in loans and advances. The negative signs of the T-Values implied that there is an inverse relationship between loans and advances and each of the variables. On the basis of statistical significance of the model as indicated by F-statistics, it was observed that the overall model was statistically significant since F-change was 12.304 and the P-Values of 0.000 was less than 5% at 5% level of significance, this showed that there exists a significant linear relationship between the dependent variable of loans and advances and the independent variables . The Durbin Watson statistics of 1.536 showed the absence of first order autocorrelation of the variables in the model. The results of the Variance Inflation Factor (VIF) were low indicating that there was no colinearity as each of the VIF was below 10, implying that there is no colinearity problems between the dependent and independent variables of the study.

Table 3.2 also shows the individual significance of the variables. It was observed that the liquidity ratio (LIR), yearly rate of Inflation (INF), Loan deposit ratio (LDR) and Cash reserve ratio (CRR) were negatively significant because their respective P values of 0.000, 0.000 and 0.028 were less than 5% at 5% level of significance. Consequently the null hypothesis in respect of liquidity ratio, yearly inflation rate, loan deposit ratio and cash reserve ratio were rejected.

On the other hand yearly Interest rate (INT) was negatively insignificant because the P value was 0.634 which is greater than 5% at 5% level of significance. Thus the null hypothesis of yearly interest rate was not rejected.

DISCUSSION OF FINDINGS

Liquidity ratio was found to be significantly associated with loans and advances of deposit money banks in Nigeria with a P- value of 0.000 which was less than 5% at 5% level of significance. This finding supported those of Ajayi (2007) and ojo (1978). The implication of this finding is that there is an inverse relationship between liquidity ratio of deposit money banks in Nigeria with loans and advance.

Similarly, yearly rate of inflation was also found to be significantly associated with loans and advance of deposit money banks in Nigeria with a P- value of 0.000 which is less than 5% at 5% level of significance. This finding corroborated that of Naceur (2009). By implication, this finding tells us that as the inflation rate goes up, loans and advances given by banks to individuals and firms drop. Furthermore, loan deposit ratio was also found to be significantly associated with loans and advances of deposit money banks in Nigeria with a P- value of 0.000 which was less than 5% at 5% level of significance. This finding was in line that of Olokoyo (2004). By implication, this finding tells us that as the loan deposit ratio goes up, loans and advances given by banks to individuals and firms also go up and vice versa. Finally, cash reserve ratio was also found to be significantly associated with loans and advance of deposit money banks in Nigeria with a P- value of 0.028 which was less than 5% at 5% level of significance. This finding confirmed that of Olokoyo (2004) and contradicted that of Olokoyo (2011). By implication, this finding tells us that as the cash reserve ratio goes up, loans and advances given by banks to individuals and firms drop.

On the other hand, yearly interest rate was the only statistically insignificant variable of the study with a p-value of 0.634 which was higher than 5% at 5% level of significance. This finding confirmed that of Samy (2003). This finding shows that as the interest rate increases the volume of loans and advances given out by banks reduce because individuals and firms will tend to reduce their request for loans and advances.

This study examined the determinants of loans and advances of deposit money banks in Nigeria using ordinary least square regression technique to analyse the data. The results showed that liquidity ratio, rate of inflation, loan deposit ratio and cash reserve ratio were statistically significant while interest rate had no significant relationship with loans and advances of deposit money banks in Nigeria.

Based on the findings of the study, it was recommended that government has to introduce policies that will reduce the liquidity ratio, interest rate, inflation rate cash reserve ratio and increase loan deposit ratio so that more funds will be made available to individuals and firms for investment purposes to boost the economy of Nigeria. Furthermore, efforts should be made by deposit money banks to ensure that the prevailing credit policy of the Central Bank of Nigeria must be fully observed in considering credit request from customers to reduce default in loan refund in the Nigerian banking industry.

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